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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,571	07/07/2000	Hideyuki Makitani	862.C1951	8640
5514	7590	11/08/2004	EXAMINER PHAM, THIERRY L	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			ART UNIT 2624	PAPER NUMBER 5

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,571

Applicant(s)

MAKITANI, HIDEYUKI

Examiner

Thierry L Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Responsive to Unsigned Declaration has been received/acknowledged and entered as paper no. 3.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Image processing system for dividing variable-length message data into fixed packet lengths.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka et al (6665082), and in view of Watanabe et al (U.S. 5815283).

Regarding claim 1, Takeoka discloses an image processing system (image processing system, fig. 1) comprising a combination of an image control unit (printer controller, fig. 1) and one or a plurality of image input/output units (printer, fig. 1-2), wherein said image input/output unit and said image control unit are connected by communication means (printer controller and printer are connected via a communication bus, fig. 1), said image control unit has first communication control means (communication control 13, fig. 1) connected to said communication means, said image input/output unit has second communication control means (communication control 25, fig. 2) connected to said communication means, and said system further includes control means (system controller, fig. 2) for performing control so as to set predetermined communication conditions (communication conditions between printer controller

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and printer, fig. 15, col. 4, lines 4-65) in said first and second communication control means initialization, decide fixed packet length (packets length, fig. 5-7, col. 13-14) based upon mutually communicable (direct communication between printer controller and printer, fig. 1) packet lengths of packets exchanged via said communication means, set the decided fixed packet length in said first and second communication control means anew, and continue subsequent communication (direct communication, fig. 1) in which a data string is divided into the set fixed packet lengths (image data is divided into multiple fixed packet lengths, fig. 5-7, cols. 13-14).

However, Takeoka discloses subsequent communication but fails to teach such communication using DMA transfer.

Watanabe, in the same field of endeavor for image processing system (fig. 1-2), teaches communication using DMA transfer (DMA controller 23, fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Takeoka as per teachings of Watanabe because of a following reason: (1) DMA controller enables/improves high-speed data transferring (col. 7, lines 5-15) between printer controller and printer; (2) to increase output productivity using DMA transfer due to its speed capabilities.

Therefore, it would have been obvious to combine Takeoka with Watanabe to obtain the invention as specified in claim 1.

Regarding claim 2, Takeoka further discloses the system according to claim 1 wherein in a case where the data string is a variable-length message (plurality of packet lengths, fig. 5), said control means performs control in such a manner that transmitting side adds information indicative of the end of a message (i.e. end command message fig. 11) onto final packet when the variable-length message is transmitted upon being divided into fixed-length packets (fixed multiple packet lengths, figs. 5-7), and a receiving side reproduces the original variable-length message after recognizing added-on final-packet information (fig. 18).

Regarding claim 3, Takeoka further discloses the system according to claim 1, wherein said control means includes first control means (communication control 13, fig. 1) in said image control unit for controlling said first communication control means, and second control means in

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said image input/output unit for controlling said second communication control means (communication control units, figs. 1-2).

Regarding claim 4, Takeoka further discloses the system according to claim 3, wherein the decision of the fixed packet length is made by said first control means (col. 13, lines 1-54).

Regarding claim 5, Takeoka further discloses the system according claim 3, wherein the decision of the fixed packet length is made by said second control means (col. 13, lines 1-54).

Regarding claim 6, Takeoka further discloses the system according to claim 1, packet length decided upon lengths of respective ones of said first and second communication control means smaller than an upperlimit value (cols. 7-8).

Regarding claims 7-9, Watanabe further discloses wherein an image reading unit and image forming units are function as an image input/output system (image forming apparatus of fig. 1 comprising both scanner and printer, figs. 1-2).

Regarding claim 10, Watanabe further discloses the system according to claim 1, wherein start-stop synchronization serial communication means is used as said communication means, a serial communication controller and a DMA controller (DMAC controller 23, fig. 3) are combined as said communication control means, the DMA controller transfers data by the fixed-length packets in accordance with a data transfer request from said serial communication controller (serial communication, figs. 3-4) and interrupts said image control unit when transfer of the fixed-length packet completed.

Regarding claims 11-12 recite limitations that are similar and in the same scope of invention as to those in claims 1-2 above; therefore, claims 11-12 are rejected for the same rejection rationale/basis as described in claims 1-2.

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Regarding claims 13-18: Claims 13-18 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 1-10; therefore, claims 13-18 are rejected for the same rejection rationale/basis as described in claims 1-10 above.

Claims 19-20 correspond to claims 1-2 except computer readable memory medium for storing program is claimed rather than printing system or data output apparatus. All computers have some type of computer readable memory medium (hard disk, fig. 4, Watanabe) for storing computer programs, hence claims 19-20 would be rejected using the same rationale as in claims 1-2.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents/publications are relevant to applicant's disclosure invention.

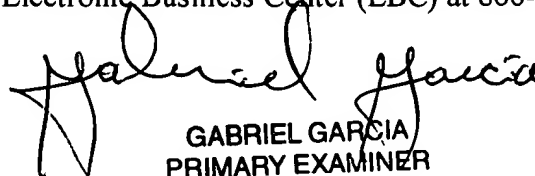
(1) EP 540378 to Maeda et al, discloses an image processing system for dividing image data into multiple fixed packet lengths and transmitting between devices.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham


GABRIEL GARCIA
PRIMARY EXAMINER